Chemical Engineers: Trusted Voice on Technical Matters of Public Concern … or Not?

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Outline

- Introduction
- History of our profession
- Where we find ourselves now
- How do we catch up
- Call for action
  - Five Priority Areas
- Moving forward and creating and sharing knowledge
Priority Area 1

- Making Chemical Process Plants Safer for Employees and the General Public
Priority Area 2

- Global Climate Change
Priority Area 3

- Toxic and Health Effects of Agrochemicals on Producers and Consumers
Priority Area 4

- Safe Transportation of Toxic and Explosive Chemicals by Rail, Highway and Water
Priority Area 5

- Future Potential of the Forest Biorefinery

*The Forest Biorefinery*

- Extract Hemicelluloses
- New products, chemicals, polymers $3.3$ billion
- BL Gasifier
- Wood Residual Gasifier
- Combined Cycle System
- Process to manufacture Liquid Fuels and Chemicals
- Power Export $3.8$ billion
  Or Liquid Fuels/Chemicals $5.5$ billion
- Black Liquor & Residuals
- Manufacturing
- Pulp $5.5$ billion

*Net Revenue Assumptions:*
- Acetic Acid $1.73$/gallon
- Ethanol $1.15$/gallon
- Purchased Electricity $43.15$/MWh
- Exported Electricity $48.45$/MWh
- Pulp $100$/ton, net profit
- Renewable Fischer-Tropsch Fuel $2.27$/gal
Moving Forward by Creating and Sharing Knowledge
Thank You!